AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A photocatalyst comprising a capsule structure which comprises a cadmium compound shell and a void and having an average particle diameter of 100 nm or less.

2. (original): The photocatalyst according to claim 1, wherein the average particle diameter is 50 nm or less.

3. (original): The photocatalyst according to claim 1, wherein the cadmium compound is cadmium sulfide.

4. (original): The photocatalyst according to claim 1, characterized by supporting a Group 8 to 11 metal.

5. (original): The photocatalyst according to claim 4, characterized in that the metal is platinum.

6. (original): The photocatalyst according to claim 1, which has a pore extending from its surface to its interior.

7. (original): The photocatalyst according to claim 6, which has a multiplicity of such pores.

8. (currently amended): A process for producing a photocatalyst comprising a capsule structure which comprises a cadmium compound shell and a void, said process comprising:

dropping a solution of a cadmium salt into a solution of a sodium compound to first form a microscopic solid phase of cadmium hydroxide, which then turns into a cadmium compound instantaneously to form the shell of the capsule of the photocatalyst; and

obtaining a photocatalyst comprising a capsular structure, which comprises a cadmium compound shell and void.

9. (original): The process for producing a photocatalyst according to claim 8, wherein the solution of a sodium compound contains sodium sulfite.

10. (original): The process for producing a photocatalyst according to claim 8, wherein the solution of a sodium compound contains sodium sulfide.

11. (original): The process for producing a photocatalyst according to claim 8, wherein the cadmium salt is cadmium nitrate.

12. (currently amended): A process for producing a photocatalyst comprising a capsule structure, which comprises a cadmium compound shell and a void and having an average particle diameter of 100 nm or less, said process comprising:

admixing a solution of a sodium compound in a suspension of particles of a cadmium compound; and

obtaining a photocatalyst comprising a capsular structure, which comprises a cadmium compound shell and void.

13. (original): The process for producing a photocatalyst according to claim 12, wherein the cadmium compound is cadmium hydroxide.

14. (original): The process for producing a photocatalyst according to claim 12, wherein the cadmium compound is cadmium oxide.

15. (original): The process for producing a photocatalyst according to claim 12, wherein the suspension of particles of a cadmium compound is prepared by mixing a solution of cadmium nitrate with a solution containing sodium hydroxide.

16. (original): The process for producing a photocatalyst according to claim 15, wherein the solution containing sodium hydroxide contains a chloride.

17. (original): The process for producing a photocatalyst according to claim 16, wherein the chloride is sodium chloride.

18. (original): The process for producing a photocatalyst according to claim 12, wherein the sodium compound is sodium sulfide.

19. (original): The process for producing a photocatalyst according to claim 8 or 12, wherein photocatalyst particles as obtained are caused to support a Group 8 to 11 metal.

20. (original): The process for producing a photocatalyst according to claim 19, wherein the metal is platinum.

21. (original): The process for producing a photocatalyst according to claim 8 or 12, which further comprises suspending photocatalyst particles as obtained in a solution containing sodium sulfite and applying light thereto.

22. (original): The process for producing a photocatalyst according to claim 21, wherein the light is visible light.

23. (original): The process for producing a photocatalyst according to claim 21, wherein the light is solar or pseudo-solar light.